AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. (Currently amended) A device for measuring flow in a fluid, the device comprising:

a) a cavitation unit comprising a cavitation light laser source ~~(10, 30)~~ for generating cavitation bubbles ~~(3)~~ in the fluid;

b) a particle-measuring unit ~~(10, 20)~~ for detecting and measuring the movement of cavitation bubbles ~~(3)~~ generated by the cavitation unit.

2. (Cancelled)

3. (Currently amended) A device as claimed in claim 1, ~~characterized in that~~ wherein the particle-measuring unit ~~(10, 20)~~ is designed to measure particle movement with the aid of phase-Doppler anemometry ~~(22) and/or~~ or Doppler shift ~~(21)~~.

4. (Currently amended) A device as claimed in claim 1, ~~characterized in that~~ wherein the particle-measuring unit is designed to determine particle movement from ~~the~~ light emitted by the cavitation bubbles ~~particles (3)~~.

5. (Currently amended) A device as claimed in claim 1, comprising a facility for invasive intervention, the facility comprising a catheter ~~(16)~~ having an optical unit ~~(10)~~ that is disposed at the catheter tip and that can receive light selectively from a focus region ~~(2)~~ situated outside the catheter ~~and/or~~ or beam ~~it~~ light selectively into the focus region ~~(2)~~, and wherein ~~in which process~~ the radial position of the focus region ~~(2)~~ can be adjusted externally.

6. (Currently amended) A ~~facility~~ device as claimed in claim 5, ~~characterized in that~~ wherein the optical unit ~~(10) can be rotated~~ is rotatable around the elongated axis of the catheter ~~axis~~ relative to the catheter ~~(16)~~.

7. (Currently amended) A ~~facility~~ device as claimed in claim 5, ~~characterized in that~~ wherein the catheter ~~(16)~~ comprises a bundle ~~(15)~~ of optical waveguides that connects the optical unit ~~(10)~~ to ~~the beginning~~ an end of the catheter.

8. (Currently amended) A ~~facility~~ device as claimed in claim 5, wherein the facility ~~characterized in that it~~ comprises a scanning unit ~~(20)~~ that is designed to vary the position of the focus region ~~(2)~~ systematically and to analyze light picked up by the optical unit ~~(10)~~ from the ~~respective~~ focus region ~~(2)~~ with regard to characteristic properties of the focus region ~~area~~.

9. (Currently amended) A ~~facility~~ device as claimed in claim 5, wherein the facility ~~characterized in that it~~ comprises a spectrometer for the spectral analysis of light picked up from the focus region ~~(2)~~.

10. (Currently amended) A ~~facility~~ device as claimed in claim 5, wherein ~~characterized in that it comprises a~~ the particle-measuring unit ~~(20) that~~ is designed to generate a modulated light field for phase-Doppler anemometry in the focus region ~~(2)~~ via the optical unit ~~(10)~~.

11. (Currently amended) A ~~facility~~ device as claimed in claim 5, wherein the facility ~~characterized in that it~~ comprises an activation unit that is designed to inject light via the optical unit ~~(10)~~ into the focus region ~~(2)~~ in order to initiate local processes therein as a result of interaction with matter.

12. (Currently amended) A ~~facility~~ device as claimed in claim 11, ~~characterized in that~~ wherein the activation unit ~~(20)~~ comprises the cavitation light laser source ~~(30) and is designed to generate cavitation bubbles (3) in the focus region (2)~~.

13. (Currently amended) A method of measuring flow in a fluid, ~~wherein~~ the method comprising:
using a cavitation light laser source to generate cavitation bubbles ~~(3) are generated~~ in the fluid; and
using a particle-measuring unit to detect and measure the movement of the cavitation bubbles ~~(3) is observed~~.

14. (Currently amended) A method of determining the position of a vessel wall ~~(1)~~, ~~wherein~~ the method comprising:
using a device as claimed to claim 5 to continuously displace a focus region in the vessel;
using a device as claimed to claim 5 to pick up light ~~is picked up~~ from ~~a~~ the focus region;~~(2) that is continuously displaced in the vessel~~ and
detecting a qualitative change in the light that is picked up ~~is detected~~.